

IN THE CLAIMS:

Claim 1. (Currently amended) An implantable medical device, comprising:
a stent having an inner surface and an outer surface; and
a plurality of asperities formed on the inner surface of the stent, the asperities being formed of at least one of protrusions and indentations, and the asperities having a roughness factor between approximately 40 nm and approximately 210 nm.

Claim 2. (Previously presented) The medical device of claim 1, wherein the protrusions and indentations have a shape selected from the group of shapes consisting of rounded, pointed and rectangular shapes.

Claim 3. (Previously presented) The medical device of claim 2, wherein the asperities comprise material deposited on the area of the inner surface of the stent that is roughened.

Claim 4. (Previously presented) The medical device of claim 1, wherein the asperities are formed on an area of the stent wherein material has been selectively etched from the stent.

Claim 5. (Previously presented) The medical device of claim 1, wherein the asperities are formed on substantially the entire inner surface of the stent.

Claim 6. (Previously presented) The medical device of claim 1, wherein the stent includes first and second ends and the asperities are formed on a portion of the inner surface of the stent adjacent the first and second ends such that a middle portion of the inner surface of the stent is smooth.

Claim 7. (Cancelled)

Claim 8. (Currently amended) The medical device of claim 1, wherein the asperities have a roughness factor ~~greater than~~ between approximately 100 nm and approximately 200 nm.

Claim 9. (Currently amended) The medical device of claim 1, further comprising a layer of non-thrombogenic material formed only on the inner surface of the stent prior to implantation.

Claim 10. (Currently amended) The medical device of claim 1, wherein the stent includes a wall having a selected thickness defined by the inner and outer surfaces of the stent, and wherein the plurality of asperities are formed on at least one region where the wall is thinner than the selected thickness.

Claim 11. (Previously presented) The medical device of claim 10, further including a groove in the inner surface.

Claim 12. (Previously presented) The medical device of claim 10, wherein the asperities cover substantially the entire inner surface of the stent.

Claim 13. (Previously presented) The medical device of claim 10, wherein the stent further includes a first end and a second end, and wherein the asperities cover selected regions adjacent the first and second ends, the stent also having a middle portion that is substantially smooth.

Claim 14. (Previously presented) The medical device of claim 10, further comprising a friction increasing coating layer formed on the inner surface of the stent.

Claims 15-56 (Cancelled).

Claim 57. (Currently amended) A balloon expandable stent adapted to be mounted on an expandable balloon of a stent delivery catheter for deployment in a patient's vasculature, the balloon expandable stent comprising:

a body portion having an inner surface and an outer surface;

an asperity formed on a selected portion of the inner surface of the body portion, the asperity being formed of at least one of protrusions and indentations, and the asperity having a roughness factor between approximately 40 nm and approximately 210 nm; and

a coating of a bio-compatible material applied only to the inner surface of the body portion over the asperity prior to deployment in the patient's vasculature.

Claim 58. (Currently amended) A balloon expandable stent adapted to be mounted on an expandable balloon of a stent delivery catheter for deployment in a patient's vasculature, the balloon expandable stent comprising:

a body portion formed from a tubular member, the body portion having an inner surface and an outer surface;

a plurality of asperities formed on a selected region of the inner surface of the body portion, the asperities being formed of at least one of protrusions and indentations, and the asperities having a roughness factor between approximately 40 nm and approximately 210 nm; and

a coating of a material applied over the asperities prior to deployment in the patient's vasculature for providing reduced interaction between the asperities and fluid flow in a body lumen.

Claim 59. (Cancelled)

Claim 60. (Currently amended) In a combination of an expandable balloon of a stent delivery catheter and a balloon expandable stent mounted on the expandable balloon, the expandable stent having a body portion with an inner surface and an outer surface, the improvement comprising:

a plurality of asperities formed on the inner surface of the body portion, the asperities being formed of at least one of protrusions and indentations, wherein the asperities have a roughness factor ~~greater than 40 nm~~ between approximately 40 nm and approximately 210 nm; and

a coating of a material applied over the asperities, the coating providing reduced interaction between the asperities and fluid flow in a body lumen.

Claim 61. (Cancelled)

Claim 62. (Currently amended) In a combination of an expandable balloon of a stent delivery catheter and a balloon expandable stent mounted on the expandable balloon, the expandable stent having a body portion with an inner surface and an outer surface, the improvement comprising:

a friction increasing coating formed on a selected area of the inner surface of the body portion, the selected area of the inner surface having a roughness factor ~~greater than 40 nm~~ between approximately 40 nm and approximately 210 nm.

Claims 63-66 (Cancelled).